

AMENDMENTS TO THE CLAIMS

The following listing of claims replaces all prior versions, and listings, of claims in this application.

Listing of Claims

1. (Currently amended) A composition comprising a protein in crystalline form wherein the protein consists of ~~SEQ. ID No. 4~~ SEQ ID NO:4, and wherein the protein crystal has a crystal lattice in a $P2_12_12_1$ space group and unit cell dimensions, $\pm 5\%$, of $a=48.36\text{\AA}$ $b=72.29\text{\AA}$ and $c=94.52\text{\AA}$, $\alpha=\beta=\gamma=90^\circ$.

2-3 (Cancelled)

4. (Previously presented) A composition according to claim 1 wherein the protein crystal diffracts X-rays for a determination of structure coordinates to a resolution having a value that is less than or equal to 3.0 Angstroms.

5-8 (Cancelled)

9. (Currently amended) A method for forming a crystal of a protein comprising:

forming a crystallization volume comprising a precipitant solution and a protein that consists of ~~SEQ. ID No. 4~~ SEQ ID NO:4, and wherein a protein crystal is formed that has a crystal lattice in a $P2_12_12_1$ space group and unit cell dimensions, $\pm 5\%$, of $a=48.36\text{\AA}$ $b=72.29\text{\AA}$ and $c=94.52\text{\AA}$, $\alpha=\beta=\gamma=90^\circ$; and

storing the crystallization volume under conditions suitable for formation of a protein crystal.

10-11. (Cancelled)

12. (Previously presented) A method according to claim 9 wherein a protein crystal is formed that diffracts X-rays for a determination of structure coordinates to a resolution having a value that is less than or equal to 3.0 Angstroms.

13-14. (Canceled)

15. (Previously presented) A method according to claim 9, wherein a protein crystal is formed, the method further comprising diffracting the protein crystal to produce a diffraction pattern and solving the structure of the protein from the diffraction pattern.

16-17. (Cancelled)

18. (Withdrawn – currently amended) A method of identifying an entity that associates with a protein comprising:

taking structure coordinates from diffraction data obtained from a crystal of a protein that has at ~~least 90% identity with SEQ. ID No. 3~~ consists of SEQ ID NO:3, and wherein the protein crystal has a crystal lattice in a $P2_12_12_1$ space group and having unit cell dimensions, +/- 5%, of $a=48.36\text{\AA}$ $b=72.29\text{\AA}$ and $c=94.52\text{\AA}$, $\alpha=\beta=\gamma=90^\circ$; and

performing rational drug design using a three dimensional structure that is based on the obtained structure coordinates.

19-21. (Canceled)

22. (Withdrawn) A method according to claim 18, the method further comprising selecting one or more entities based on the rational drug design and contacting the selected entities with the protein.

23. (Withdrawn) A method according to claim 18, the method further comprising measuring an activity of the protein when contacted with the one or more entities.

24. (Withdrawn) A method according to claim 18, the method further comprising comparing activity of the protein in a presence of and in the absence of the one or more entities; and selecting entities where activity of the protein changes depending whether a particular entity is present.

25. (Withdrawn) A method according to claim 18, the method further comprising contacting cells expressing the protein with the one or more entities and detecting a change in a phenotype of the cells when a particular entity is present.

26. (Withdrawn) The method according to claim 15 further comprising:

performing rational drug design using the solved structure; and

identifying an entity that associates with the protein.

27. (Withdrawn) The method according to claim 26 further comprising selecting one or more entities based on the rational drug design and contacting the selected entities with the protein.

28. (Withdrawn) The method according to claim 27 further comprising measuring an activity of the protein when contacted with the one or more entities.

29. (Currently amended) A ~~composition comprising a~~ soluble protein consisting of ~~SEQ ID No. 4~~ SEQ ID NO:4.

30. (Withdrawn – currently amended) A ~~composition comprising a~~ soluble protein consisting of ~~SEQ ID No. 3~~ SEQ ID NO:3.

31. (New) An isolated soluble protein consisting of residues 136-461 of SEQ ID NO:1.

32. (New) An isolated non-crystalline protein consisting of residues 136-461 of SEQ ID NO:1.

33. (New) A non-crystalline protein consisting of SEQ ID NO:4.

34. (New-Withdrawn) A non-crystalline protein consisting of SEQ ID NO:3.

35. (New) A composition comprising a protein in crystalline form wherein the protein consists of residues 136-461 of SEQ ID NO:1, and wherein the protein crystal has a crystal lattice in a $P2_12_12_1$ space group and unit cell dimensions, +/- 5%, of $a=48.36\text{\AA}$ $b=72.29\text{\AA}$ and $c=94.52\text{\AA}$, $\alpha=\beta=\gamma=90^\circ$.

36. (New) A method for forming a crystal of a protein comprising:

forming a crystallization volume comprising a precipitant solution and a protein that consists of residues 136-461 of SEQ ID NO:1, and wherein a protein crystal is formed that has a crystal lattice in a $P2_12_12_1$ space group and unit cell dimensions, +/- 5%, of $a=48.36\text{\AA}$ $b=72.29\text{\AA}$ and $c=94.52\text{\AA}$, $\alpha=\beta=\gamma=90^\circ$; and

storing the crystallization volume under conditions suitable for formation of a protein crystal.